REMARKS

In the Office Action mailed March 9, 2010, the Examiner acknowledged Applicant's previous election of claims 1-11.

Claims 2, 5, and 7 were objected to.

Claims 1-11 were rejected for alleged obviousness under §103(a) based upon US 2005/0128683 to Watanabe et al.

Applicant appreciates the careful and thoughtful review of the present application. In view of the clarifying amendments and explanations presented herein, it is respectfully submitted that all claims 1-11 are in condition for allowance. New claims 21-31 are also presented for the Examiner's consideration. These claims are also believed to be in condition for allowance.

A. Objection to Claims 2, 5, and 7 Has Been Remedied

Clarifying amendments in accordance with the Examiner's helpful suggestions are presented herein to claims 2, 5, and 7. It is believed that the objection has been remedied and should now be withdrawn.

B. Rejection of Claims 1-11 Under §103 Based Upon US 2005/0128683 Should be Withdrawn

Claims 1-11 were rejected for purported obviousness based upon US 2005/0128683 (now US Patent 7,157,396) to Watanabe et al.

The claims at issue are directed to dielectric pastes and various aspects related to the pastes, in which the pastes comprise a solids portion, prior to firing, of a particular combination of components in particular proportions to one another. Claim 1 recites this specific combination of components and proportions as follows:

about 41.5 wt% to about 48.5 wt% SrO,

about 47 wt% to about 55 wt% ZrO_2,

about 0.5 wt% to about 2.5 wt% TiO_2;

about 0.05 wt% to about 1.5 wt% MgO, and

about 0.05 wt% to about 3 wt% B_2O_3.

Turning attention to the cited '683 publication to Watanabe et al., it will be appreciated upon a detailed review, that a significantly different composition is taught. Specifically, in the cited publication, it is noted that:

> [0041] The inventors engaged in intensive studies to better improve the accelerated lifetime of the insulation resistance (=high temperature load lifetime, hereinafter in the explanation sometimes also referred to merely as "lifetime") of a reduction resistant dielectric ceramic composition. As a result, they discovered that dielectric ceramic compositions containing at least a V oxide, Al oxide, Mn oxide, and a specific sintering aid in a specific ratio can greatly improve the lifetime of dielectric oxides of specific compositions compared with dielectric ceramic compositions of conventional compositions. The reasons for this effect arising are not necessarily clear, **but it may be that it arises due to the synergistic effects of at least a V oxide and Al oxide.** Further, they discovered that it is possible to greatly improve the reliability of electronic devices obtained when using dielectric ceramic compositions greatly improved in this lifetime and therefore previously filed Japanese Patent Application No. 2003-38778. (Emphasis added).
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> [0074] As the first subcomponent material, a V oxide and/or a compound forming a V oxide after firing may be used. As the second subcomponent material, an Al oxide and/or a compound forming an Al oxide after firing may

> be used. As the third subcomponent material, an Mn oxide and/or a compound forming an Mn oxide after firing may be used. As the fourth subcomponent material, SiO_2, BaO, CaO, SrO, MgO, Li_2O, B_2O_3, and/or compounds forming these oxides after firing may be used.
> Watanabe et al. teach combining this four component system with a "main component" that includes a dielectric oxide having a particular formula as follows:
>
> [0018] a main component including a dielectric oxide expressed by a composition formula $\{(Ca_{1-x}Me_x)0\}_m,(Zr_{1-y}Ti_y)0_2$, wherein the symbol Me showing the name of the element in the composition is at least one of Sr, Mg, and Ba, and the symbols m, x, and y showing the molar ratio of the composition in the composition formula are $0.8 \leq m \leq 1.3$, $0 \leq x \leq 1.00$, $0 \leq y \leq 1.00$,

As further noted in paragraph [0077] of the '683 publication, this "main component" can include starting materials which include TiO_2 and ZrO_2.

In support of the present rejection, the Examiner, while referring to the first claimed compound SrO in the pending claims, finds that compound as a noted example of the fourth component described by Watanabe et al. The Examiner then looks to the second claimed compound in claim 1 which is ZrO_2 and points to the use of ZrO_2 by Watanabe in their "main component." Similarly, for the next claimed compound in claim 1 which is TiO_2, the Examiner also finds that in Watanabe's main component. The Examiner then looks to the next claimed compound in claim 1 which is MgO and finds that mentioned as an example of a suitable compound for the fourth component of Watanabe's four component system. And finally, the Examiner looks for the fifth compound in claim 1 which is B_2O_3 and finds that mentioned in the '683 publication also as an example of the fourth component in Watanabe's system.

Having found mentions of each of the five compounds recited in claim 1, in the '683 publication to Watanabe, the Examiner then concludes it would be obvious to

combine the compounds as recited in claim 1 and rejects not only that claim, but all other claims 2-11 dependent therefrom.

This is a classic example of impermissible hindsight reconstruction using pending claim 1 as a template to recreate the claimed subject matter.[1] It is respectfully submitted that upon a thorough review of the '683 publication to Watanabe et al., and for the reasons set forth below, it will be appreciated that the pending claims are in fact, patentably distinguishable over that reference.

1. Rejection Ignores Requirement by Watanabe et al. for use of SiO_2

In describing the fourth component of their four component system, Watanabe et al. state that their fourth component includes SiO_2:

> **and a fourth subcomponent having SiO_2 as a main component** and including an oxide including at least one type selected from Mo (where M is at least one type of element selected from Ba, Ca, Sr, and Mg), Li_2O, and B_2O_3.

Paragraph [0054] of the '683 publication (emphasis added).

Contrary to the teachings of Watanabe et al., presently pending claim 1 does not require SiO_2. In fact, if an artisan followed the teachings of the '683 publication to

[1] "It is error to reconstruct the patentee's claimed invention from the prior art by using the patentee's claim as a "blueprint."" Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985). "[I]t is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

Watanabe, the artisan would be instructed to include SiO_2 as the "main component" of the fourth component of Watanabe's system. How then can the Examiner simply ignore this express teaching?

2. Rejection Ignores Claim Recitations for Particular Proportions of Compounds

Claim 1 recites a particular weight percentage of SrO in a solids portion, prior to firing, of from about 41.5% to about 48.5%.

Watanabe et al. entirely fail to teach or even suggest this particular concentration range for SrO. Instead, Watanabe et al. teach that the molar ratio of SrO to SiO_2 should be 0.3 to 0.7, see paragraph [0064] of the '683 publication. Notwithstanding the fact that pending claim 1 does not call for SiO_2, it will be appreciated that Watanabe et al. teach significantly smaller proportions of SrO than the relatively large amount of 41.5% to 48.5% recited in claim 1.

Claim 1 also recites from about 47% to about 55% ZrO_2. Again, Watanabe et al. fail to teach or describe this particular concentration range.

Claim 1 continues and recites a concentration range of from about 0.5% to about 2.5% TiO_2. Watanabe et al. entirely fail to teach or describe concentrations for this compound, however very likely utilize much greater proportions. Watanabe et al. note that TiO_2 can be used as a starting material in "the main component material", see paragraphs [0036] and [0077] of the '683 publication. Accordingly, an artisan following the teachings of the '683 publication would be motivated to utilize significantly greater amounts of TiO_2 than the claimed range of about 0.5% to about 2.5% of TiO_2.

Furthermore, claim 1 recites MgO is used at a weight percent concentration of from about 0.05% to about 1.5%. Nowhere in the '683 publication to Watanabe is any teaching, description, or even suggestion of this particular concentration range. And, as previously explained, Watanabe et al. instruct that SiO_2 is to be used in conjunction with MgO.

Claim 1 further recites that B_2O_3 is used at a concentration of from about 0.05% to about 3%. Watanabe et al. also entirely fail to teach, describe, or even suggest this particular concentration range. Instead, as previously explained, Watanabe et al. instruct that if B_2O_3 is used, it must be accompanied with SiO_2. Claim 1 does not call for SiO_2.

3. Watanabe et al. Fail to Teach Combination of Compounds of Claim 1

Claim 1 recites a specific combination of compounds: SrO, ZrO_2, TiO_2, MgO, and B_2O_3. Watanabe et al. entirely fail to teach, describe, or even suggest this particular combination. Although these five compounds are all mentioned within the '683 publication, there is no teaching of their particular combination.

Moreover, Watanabe et al. require the use of additional compounds which are not required by pending claim 1, such as the previously noted SiO_2 for use in Watanabe's fourth component.

4. Watanabe Require Additional Components

A full reading of the '683 publication reveals that Watanabe et al. require several other components, which are not required by pending claim 1. For example, Watanabe

et al. teach the use of a V oxide, as the first component in their four component system. None of the pending claims require a V oxide.

Watanabe et al. further teach that an Al oxide be used for the second component in their four component system. None of the pending claims call for an Al oxide.

Watanabe et al. continue and further require the use of an Mn oxide as the third component in their four component system. None of the pending claims require an Mn oxide.

For at least these numerous reasons, it will be agreed that the present rejection of claims 1-11 under §103 based upon the '683 patent to Watanabe et al., must be withdrawn.

C. New Claims 21-31

New claims 21-31 are presented for consideration. No new matter is presented as support is found in the originally filed application. These claims correspond to pending claims 1-11 however recite that the solids portion prior to firing "consists essentially of" the recited compounds in the noted concentrations. The Examiner will appreciate that the terminology "consists essentially of" excludes any other components that would affect the basic and novel characteristics of the claimed composition.[2]

[2] Atlas Powder Co. v. E.I. du Pont de Nemours & Co., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); AK Steel Corp. v. Sollac, 344 F.3d 1234, 68 USPQ2d 1280 (Fed. Cir. 2003).

D. Conclusion

In view of the foregoing, it is respectfully submitted that all claims 1-11 and 21-31 are now in condition for allowance.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 06-0625, our Order No. FER-16079.001.001.001.

Respectfully submitted,

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